

Mar 6, 2003

Mr. John Andrus
Manager of Transportation Safety and Procedures
Southwest Airlines Company
P.O. Box 36611
Dallas, Texas 75235-1611

Reference No. 02-0297

Dear Mr. Andrus:

This is in response to your November 19, 2002 letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to nonspillable wet cell batteries. Specifically, you request marking and packaging requirements for equipment with installed nonspillable batteries transported aboard passenger aircraft. Your questions are paraphrased and addressed as follows:

- Q1. Is the outer packaging of equipment installed with nonspillable batteries required to be marked "NONSPILLABLE" or "NONSPILLABLE BATTERY" and otherwise meet the requirement of § 173.159(d)?
- A1. Yes. Section 173.159(d)(2) requires each nonspillable battery and its outer packaging to be plainly and durably marked "NONSPILLABLE" or "NONSPILLABLE BATTERY" if the battery was manufactured after September 30, 1995. If a product contains a nonspillable battery and is placed in an outer packaging (e.g., fiberboard box), the battery and the outer packaging must be marked either "NONSPILLABLE" or "NONSPILLABLE BATTERY." Nonspillable batteries must be protected against short circuits, securely packaged and capable of withstanding the vibration and pressure differential tests without leakage of battery fluid from the battery.
- Q2. Must equipment that contains a nonspillable battery that is securely attached to the equipment, protected from short circuits and marked as a nonspillable battery, but offered as baggage without an outer package, be placed in an outer package marked "NONSPILLABLE" or "NONSPILLABLE BATTERY" or could it be accepted without further packaging? A two-wheeled electric scooter is cited as an example.
- A2. Provided the battery is protected against short circuits, securely packaged, plainly and durably marked "NONSPILLABLE" or "NONSPILLABLE BATTERY" and is capable of withstanding the vibration and pressure differential tests found in § 173.159(d)(3), further packaging would not be required. Similar vibration and pressure differential test criteria are contained in the International Civil Aviation Organization's (ICAO) Technical Instructions for international air. Special Provision A67 of the ICAO Technical Instructions requires that a temperature of 55 degrees C. be used to determine whether the electrolyte will flow from a ruptured or cracked case.

I hope this information is helpful. If we can be of farther assistance, do not hesitate to contact us

Sincerely,

Delmer F. Billings
Chief, Standards Development
Office of Hazardous Materials Standards

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